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A Survey Evaluation of South Dakota Beef Cattle Production

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AN EVALUATION OF INFORMAL SELF-TEACHING CENTERS IN SELECTED SOUTH DAKOTA COOPERATIVE EXTENSION SERVICE COUNTY OFFICES

BY

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This thesis is approved as a creditable and independent investigation by a candidate for the degree, Master of Science, and is acceptable for meeting the thesis requirements for this degree. Acceptance of this thesis does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

Professor Ruth Laird, Thesis Adviser — Date

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CHAPTER I

INTRODUCTION

Purpose of the Study

This study examined the potential of self-teaching centers in 12 selected county offices of the South Dakota Cooperative Extension Service. The self-teaching centers used either 35 mm slide-tape or 1/2 inch videocassette projection systems as the key teaching instrument.

The study measured the time involved in maintaining and using the centers and determined any significant variation in a center's use due to county population and local Extension office differences.

The study reviewed when and why the centers were used, and which topics were most often selected. Where viewers had a choice between projection systems, their preferences were recorded. Users were asked (in a questionnaire) if they felt the programs were acceptably presented.

The South Dakota Cooperative Extension Service will use the information in determining if self-teaching centers should be incorporated into county audiovisual systems. The information may also be useful to Extension Services in other states that are considering alternative ways to deliver information to their various publics.

Statement of the Problem

Are self-teaching centers an appropriate way for South Dakota Cooperative Extension Service county offices to disseminate information? To better understand the problem, it is useful to review some basic information about how self-teaching systems have been used in other situations and how they might be applicable to the Extension Service's needs.

Extension's Current Communication System

As a land-grant institution, one of the three primary functions of South Dakota State University is to provide information about agriculture and home economics to all citizens of South Dakota.

This task is carried out by the Cooperative Extension Service. Most of the information is delivered on the county level through 68 county Extension offices situated throughout the state.

The Extension Service is primarily an informal educator. People are invited to visit county offices anytime to obtain help from the county agent or home economist. Their consultations may be supplemented with written information in the form of fact sheets, bulletins, and circulars.

If the agent or home economist cannot completely answer a need, then he or she can call on the Extension specialists, housed at South Dakota State University or at an area office in Rapid City. In addition to answering specific local problems, the specialists produce much of the written material available at the county offices

and conduct meetings or mini-courses at the county offices upon request from the agents or home economists.

Extension personnel on both the county and state levels use audiovisual equipment in answering questions and in county presentations. Currently the South Dakota Extension Service uses 16 mm film projectors, 35 mm slide projectors, audio-cassette tape players, and overhead transparency projectors to help with training sessions that affect individuals and various sizes of groups.

The Extension Service is one of many organizations which use audiovisual equipment for many reasons. Michael Goudket, in An Audiovisual Primer, wrote that "these aids help people to better understand how a procedure or principle is actually developed, especially where language has problems in clearly conveying the total concept."[1]

W. H. Carlton and David Erickson, in Fundamentals of Teaching with Audiovisual Technology, wrote that "some processes and ideas, taken as a whole, are so complicated that they cannot be easily understood. Audiovisual presentations can single out and explain specific parts of complicated systems or concepts to help better understand the complete process."[2]

The South Dakota Cooperative Extension Service uses its audiovisual equipment for some of the same reasons. These Extension audiovisual programs emphasize key facts and figures in areas such as market trends, animal carcass characteristics, or experiment

plot results. They also teach many step-by-step techniques, such as sewing, engine mechanics, or tree and shrub pruning.

While audiovisual equipment has been useful to the Extension Service in the past, it may be called upon to play an even more important role in the future.

Agents and home economists conduct many meetings throughout the average year. Some they conduct themselves; many others require a specialist's help because the topic goes beyond the county staff's expertise. These in-depth meetings have been a key element of county activities since the Service started, but this form of communication is now threatened.

Two major reasons for local meeting curtailment become more apparent every year. The cost of transportation forces specialists to attend only those meetings where audience numbers offset the cost of getting to the meeting. Recent cuts in specialist positions also mean fewer people to visit the counties.

Audiovisuals are being considered as one possible alternative for delivering information if a personal contact with state or county staff is not practicable.

In January 1977, a proposal was prepared by a task force of the South Dakota Cooperative Extension Service, requesting funds from the United States Department of Agriculture to finance an exploratory study for using self-teaching centers in county Extension offices. Such centers are already being used in education, industry, and the armed forces, but to this point, the task force had not

seen any formal tests of such a system's effectiveness in county Extension offices.

In the study, the self-teaching center consisted of a portable table with two shelves. The top shelf held the projection equipment while the bottom held programs and any additional equipment for the projection systems. The table had a pegboard backdrop to display fact sheets relating to the self-teaching center programs. This table was located somewhere within the office, where it was readily seen and easily used without interfering with the traffic pattern. The self-teaching centers used two projection systems that have not been used previously by the South Dakota Extension Service.

One system is a combination 35 mm slide projector with a built-in cassette tapeplayer. The device projects an image onto a screen on the front of the projector, which makes it look much like a television presentation.

To operate this projection system, the viewer chooses an appropriate slide tray and audio cassette tape. The slides are placed on top of the machine. The projector is activiated when the cassette tape is pressed into the tape player, which is located on the front of the machine. The tapes for the study include a silent signal between slide cues, which activates the slide changer. This makes the projection system automatic after it is started.

The other projection systems is a 1/2 inch videocassette tape player and a 15 inch television monitor. To play this system, the viewer selects a tape, which is about the size of a paperback

book. The tape is inserted into the front of the player and pressed down. The viewer then presses the forward button. The machine automatically winds the videotape, and the sound and image are then projected to the television monitor.

According to a report by James Duane, both projection systems give the viewer the flexibility to play and replay at his or her convenience.[3]

The task force reasoned that a self-teaching center, using either projection system, might help to ease the communication load at the county office. It listed the following ways that either system might benefit the county Extension office operation:

1. Such a system, using either projection device, would fit into the audiovisual systems that are currently popular with the general public.

2. County agents and home economists might be freed from presenting some of the basic information that must be constantly relayed. This might free them to work on the harder or more time-consuming projects of the local office.

3. The self-teaching centers might reduce the need for meetings conducted by the Extension specialists. Or they might at least help the specialist to contact more people when he or she is not in the county. Either situation might help to make the specialist's labor more cost effective.

4. The self-teaching centers might increase the use of available written materials.

The task force did not propose to answer all of the questions that might clarify the specific uses of the center in Extension work, but it did suggest that the research would answer at least the following questions:

1. How much time and what resources would be needed at the county office level to operate the self-teaching center?

2. What were the costs and benefits of using videocassette and/or slide-tape presentations, compared to using a specialist or county agent and/or home economist to conduct the same teaching assignment?

3. Would more slide-tape presentations be used if they were constantly accessible?

4. How would the agents and home economists and their clients feel about the effectiveness of the self-teaching centers, using either projection system (determined in this instance by the amount of use)?

5. What kinds of usage patterns would there be for slide-tape and videocassette presentations of the same subject matter? (The centers were located in South Dakota County Extension offices of different population densities to see if this also would affect use.)

Review of the Literature

The reasons the South Dakota Cooperative Extension Service is using audiovisual equipment have been stated. But what makes

any audiovisual system or specific projection device an effective instructor or instructor's aid in the first place?

First, a definition was needed. Michael Goudket points out that the word audiovisual is a Latin term which means "to hear (audio) and to see (visual). It is applied to the part of educational technology that deals in supplying audible and visible experiences to students."[5]

Audiovisual aids have been part of the American school system since 1905 when the Saint Louis city museum began transporting teaching exhibits to the city schools. Those first audiovisuals included still photos, stereoscopic pictures, lantern slides, and other items that could be seen, touched, and heard.[6]

By the mid 1930s, such aids as 16 mm films and slides had become a regular part of the educational process.[7] There was a tremendous increase in their use during World War II, when audiovisuals were used to train large numbers of people in many phases of the armed services and industry.[8]

Since then, the list of audiovisuals has grown at a steady pace. The educator of today can choose from dozens of different instruments.

At a workshop supported by the Centre for Educational Research and Innovation, educators from many different countries listed the audiovisual and other media alternatives available in the 1970s. These included (1) print in all forms, (2) moving visual and audiovisual media (film, television, videotape), (3) static

visual media (slides, photographs), (4) sound media (tape recordings, radio, gramaphone discs), (5) situational information (as in drama, role playing, educational games, case studies), (6) computers, and (7) human resources.[9]

The reason for such a wealth of different audiovisuals and other media forms was brought out by early communications researcher Joseph Weber. By 1930, he had already reviewed several different audiovisual forms and reported in his book, Visual Aids in Education, that "the usefulness of any single visual aid varies with every topic or project."[10]

Again in 1973, after the appearance and use of countless additional audiovisual devices, James Brown, Richard Lewis, and Fred Harcleroad concluded in their book, AV Instruction, that "no one medium, procedure, or student experience is necessarily best for learning a particular subject, for acquiring a particular skill, or for developing a specified desirable attitude or level of appreciation."[11] At the same time, they also suggested that audio-visual equipment "can help to some extent in all phases of the teaching process."[12]

An article in the 1950 edition of the Encyclopedia of Educational Research compiled one of the first general lists of contributions that audiovisuals made to education. The information was collected from the work of communications researchers such as Edgar Dale, Charles F. Hoban, James D. Finn, and others. Their research concluded that in many instances audiovisuals may:

1. Supply a concrete basis for conceptual thinking and hence reduce meaningless work response from students.
2. Generate more interest in learning.
3. Make learning more permanent.
4. Offer a reality of experience which stimulates self-activity on the part of the student.
5. Develop a continuity of thought.
6. Contribute to the growth and meaning of language and hence to vocabulary development.
7. Provide experiences not easily obtained through other materials and contribute to the efficiency, depth, and variety of learning.[13]

Slide-Tape and Videocassette Use in Education

There are other reasons for the general use of audiovisuals in education, but this study plans to use only slide-tape and videocassette projection and audio systems. It was therefore useful to determine what kinds of educational tasks could be carried out with these teaching aids.

Jerald Kemp, in Planning and Producing Audiovisual Materials, indicated that several communications researchers have listed specific teaching tasks that can be carried out by the most widely used forms of audiovisual equipment.[14]

William Allen's rating system is typical of such reviews. In his article, "Media Stimulus and Types of Learning," Allen wrote that slide-tape and television presentations (videocassettes being one form of televised materials) are judged as average or better-than-average in five teaching areas. These areas included learning factual information; making visual identification; learning principles; understanding concepts and rules; and learning procedures and

developing desirable attitudes, opinions, and motivations.[15] He did not indicate any significant variations in their potential contributions.

But there are some differences in the production of programs for the systems and the use of each by the student or instructor. These differences could play a role in determining which system (if either) the Extension Service might choose if they proved equal in the teaching process.

Media instructor James Duane estimated that slide-tape equipment and programs are less expensive than videocassettes. He also considered slide-tape productions easier to update because individual slides or commentary could be extracted and then reinserted without having to edit the entire show.[16]

Duane added that slides give a clearer visual image, but that videocassette machines are easier to play and that the element of movement in videocassette presentations can enhance a presentation if properly used.[17]

Related Studies Involving Videocassette and Slide-Tape

While there are some differences within these two audiovisual forms, are the key variances strong enough to make the Extension Service clearly prefer one over the other? And how do the two projection systems stand up to the same lesson presented by an instructor?

Two of the following studies were dissertations that compared slide-tape and videocassette presentations in the same test.

Pauline Jones, in her Ph.D. dissertation at the University of New Mexico, compared the effectiveness of videocassette and slide-tape presentations for the self-instruction of para-professionals.

The same subject matter was used with both kinds of audio-visual equipment. Participants were tested for knowledge retention before and after both presentations, and in a subsequent retention test six weeks later. Jones found no significant difference between the six-week retention test performances of those taught either by videocassette or slide-tape.[18]

Gerald Lafferty took this type of comparison research of slide-tape and videocassette one step further. He compared the forms with each other and with instructor-taught lessons. The project was Lafferty's Ph.D. dissertation at the University of Utah. His intention was to find if any of the three modes of instruction significantly changed the attitudes and behavior of people towards dental hygiene concepts and practice.

Lafferty found all three forms of communication had a high degree of significance in increasing knowledge of dental hygiene, but attitudes and behavior of participants were changed significantly only through the use of videocassette or slide-tape presentations.[19]

Other research done on slide-tape or videocassette was primarily conducted with only one medium per test.

Myron Ritter, in his Ph.D. dissertation at Pennsylvania State, analyzed the effectiveness of teaching geometry classes using videocassette equipment. He found such aids helped teachers to work with greater numbers of students with no loss of achievement. Ritter concluded, "When a pupil is free to choose how he spends his own time, the completion time of a course as defined by the study may be more significant than the quantity of time actually spent with the teacher."[20]

In another dissertation, completed at Virginia Polytechnic Institute, Dianne Hardison studied whether library skills could be more effectively taught in one class period by videotape or by live presentations. Her research showed no significant differences in the two forms of instruction. She concluded, through two post-tests, that there was about the same level of information retention at least 12 days after the presentation.[21]

In another study of the effectiveness of videocassettes as teaching tools, John Sladicka measured the potential of teacher-prepared videotapes as an aid in teaching college level metal working skills. Sladicka's research was part of his Ph.D. dissertation from Rutgers University. Sladicka wanted to know if videocassettes would enhance job quality, cognitive development, demands upon teacher time, job time, and student satisfaction with the course. His results indicated that students who used the videotapes needed to spend less time than those who did not use the videotapes with the teacher.[22]

Donald Amelon's Ph.D. dissertation, completed at the University of Missouri, compared traditional teaching with slide-tape instruction in college level metal work classes. He was interested in how each affected student performance of operations, related information learned, student observation time, and teacher time spent with each student. Amelon found strengths for each presentation. Students learned better if the teacher led the demonstrations, but the slide-tape did a better job of teaching other related information. He failed to find any significant difference in time savings when the instructor was required to help students perform certain operations.[23]

All of these studies indicate some basic themes. Both projection systems that the Extension Service examined in a self-teaching center situation proved effective as teaching mechanisms. Neither system had a significant edge in overall teaching capabilities, but both did as well as or better than the teaching of various subjects by an instructor.

So to this point the research indicated that the Extension Service had selected appropriate projection systems. The important question of how they would perform in Extension county offices remained to be tested.

Limitations of the Study

This is the first research conducted on this particular form of communication system for county Extension offices. Because of this, much of the information will be basic data that can be used

in future studies that look at self-teaching centers in specific settings.

The study attempted to determine some of the variables that affect the amount of usage of a self-teaching center, but it did not attempt to indicate why these variables affect usage.

One obvious limitation in this study may be the sample size. While 12 counties represent almost 20 percent of the total county offices in South Dakota, much larger samples could be obtained in other states where materials and manpower are available. South Dakota is a rural state, and the Extension Service's role is more apparent in this state than elsewhere throughout the nation.

These situations suggest that while some guidelines may be applicable to other states, further analysis of other state Extension Service offices would be appropriate to help support any conclusions reached in this research.

FOOTNOTES

[1]Michael Goudkett, An Audiovisual Primer (Teachers College Press, Teachers College, Columbia, New York and London, 1973) p. 2.

[2]W. H. Carlton and David Erickson, Fundamentals of Teaching with Audiovisual Technology (New York, New York, McMillan Publishing Company, 1972), p. 27.

[3]James Duane, "Media as Applied to Individualized Instruction," Ed Technology, Vol. 19, May 1974, p. 36.

[4]Computer searches were conducted to locate this information through the Bibliographic Center for Research, Denver, Colorado, in July 1978. The data bases searched included Education Resources Information Center, Dissertation Abstracts, National Technical Information Service, and American Business Institute Information. Key sources for research included the Journal of Communication; Journal of Educational Technology; Journal of Broadcasting; and Audio Visual Instruction.

[5]Goudkett, p. 1.

[6]Dorthy Taggert, A Guide to Sources in Educational Media and Technology (Metuchen, N.J.: Scarecrow Press, 1975), pp. 1-3.

[7]Paul Saettler, A History of Instructional Technology (New York: McGraw-Hill, 1968), pp. 96-98.

[8]Ibid., pp. 280-300.

[9]Centre for Educational Research and Innovation, Results of the Workshop on Educational Technology Strategies for Implementation (New York, N.Y., April 19-25, 1970), p. 25.

[10]J. J. Weber, Visual Aids in Education (Valpraiso University, 1930), p. 195.

[11]James Brown, Richard B. Lewis, Fred Harcleroad, AV Instruction (New York, N.Y.: McGraw Hill, 1973), p. 26.

[12]Ibid., p. 28.

[13]Encyclopedia of Educational Research, 1950 rev. ed., "Audio-Visual Methods," p. 84.

[14]Jerald Kemp, Planning and Producing Audiovisual Materials, (San Francisco, California: Chandler Publishing Company, 1968) pp. 28-30.

[15]William H. Allen, "Media Stimulis and Types of Learning," Audio-Visual Instruction, January 1967, pp. 27-31.

[16]James Duane, "Media as Applied to Individualized Instruction," Audio-Visual Instruction, May 1974, pp. 34-36.

[17]Ibid., p. 36.

[18]Pauline A. Lunka Jones, "A Comparative Study of the Effectiveness of Videocassette and the Slide-tape Presentations for Self-Instruction of Para-professionals" (Dissertation Abstracts International, Vol. 35/09-A), p. 3989.

[19]Gerald Frances Lafferty, "Development and Assessment of a Video Cassette Self-Teaching Patient Education Program in Dental Health" (Dissertation Abstracts International, Vol. 32/01-A), p. 254.

[20]Myron Wayne Ritter, "A Comparison of the Traditional Approach and of Independent Study by Video-tape Dial Acces in Trigonometry Classes" (Dissertation Abstracts International, Vol. 32/01-A), p. 254.

[21]Dianne Dixon Hardison, "Library Instruction in a Community College: A Study to Determine the Comparative Effectiveness of Classroom Teaching and a Video-Self-Instruction Unit for Develomental and Degree Program Students" (Dissertation Abstracts International, Vol. 38/03-A), p. 1189.

[22]John Sladicka, "The Effectiveness of Self-Instruction Video Cartridge Tapes in Teaching College Level Industrial Arts" (Dissertation Abstracts International, Vol. 37/02-A), p. 939.

[23]Donald James Amelon, "Slide-Tape Self-Instruction Versus Traditional Group Demonstrations in Teaching College Level Metal Work" (Dissertation Abstracts International, Vol. 3/111-A), p. 4797.

CHAPTER II

METHODOLOGY

Methods of Gathering Data

The data were collected through usage questionnaires filled out by those people who used the centers and by the county staff members who maintained the centers. Other data were collected in post-test questionnaires.

The data collection process included the development and distribution of the questionnaires, collection of the questionnaires on a monthly basis, administration of post-survey questions, tabulation of all available information, and final computer analysis of all data.

Sampling Procedure

Because this study was part of a larger project, the Cooperative Extension Service county offices chosen for the project were picked before this study was designed. County staff participants were questioned to insure that they had space to display the equipment and that they had a positive attitude toward using this kind of teaching aid.

The counties were divided into three test groups. Each group of four counties consisted of one county with a population designated as large (13,001 and over), two medium counties (6,001 to 13,000), and one small county (to 6,000 population). The sample

represented about 20 percent of the county Extension offices in the state of South Dakota.

The designation of counties in the large and small groups was limited by the expense of equipment, the lack of space in county offices in which to place the centers, and the lack of county staff participation due to various reasons.

Equipment Distribution

One set of four counties received both slide-tape and videocassette projection systems to present the "Select-A-Fact" programs. Another set of counties received the slide-tape projection system only, and another set was given only a videocassette projection system. A fourth set of counties was chosen as a control group. This group was randomly chosen from county offices not officially involved in the project. These counties can obtain the topics used in the self-teaching program by ordering them individually from the slide-tape library at South Dakota State University. (Since there are no other videocassette projection systems in South Dakota Extension county offices, no tapes in this form were available.) For a list of each county's equipment allocation, refer to Appendix A.

Programs Used in the Study

Since the programs used in the self-teaching centers could play a role in the use of the centers, it was necessary to select and produce appropriate Extension-oriented programs.

Topic ideas were determined through a pre-test survey developed for the overall project. The responses helped to identify programs that the county staff felt would be used and programs that the specialists were willing to help develop. Topics received top priority if they appealed to a wide audience and were subjects supplemented by available literature. Some of the topics were seasonal (such as canning and tree care), and this will be taken into consideration in the final analysis. (Space was given on each questionnaire to list other topics that participants would like to see presented in such a format.)

Twenty-one programs were produced for the project. They were released in three groups during the first fourteen months (time of release was also considered in final counts analysis). The topics included five horticulture, three agricultural production, eight home economics, two youth, two energy conservation, and one home repair.

Specific information on a topic or the way in which the subject matter is presented might affect the use of the "Select-A-Fact" equipment. It was therefore necessary that slide-tape and videocassette programs contain the same basic information. Many of the slides were shot at the same location at which the videocassette productions were shot. The same script was followed in both the slide-tape and videocassette presentations in most of the productions. For a list of programs and a description of each, refer to Appendix B.

Data Collection Instruments

Two questionnaires were used in the study. One was filled out once a month by the county Extension office staff. The other form was filled out by the people who used the self-teaching centers. One form was filled out by each person each time he or she used the center. A single questionnaire could be used if a group of programs were watched in a single sitting.

There were two basic parts to the user's card: (1) background questions on what programs were viewed, why they were being used, when the self-teaching center was used, and how long the center was used during each viewing; and (2) questions to determine if people felt the information was useful and if it was presented in an acceptable manner.

The questionnaires filled out by the county staffs also contained two sections. The first section indicated how much time was spent by different members of the staff with the self-teaching centers. The second half of the card reviewed expenditure of time according to specific tasks.

The questions for the data collection instruments were developed in a series of meetings with the overall project task force committee. The instrument was also reviewed by the Experiment Service statistician. A tentative instrument was drawn up and introduced to the clerical staff of the Agricultural Information office to review the clarity of questions. Questions from both questionnaires are included in Appendix C.

Post-Survey Questions

Some additional information on center usage was collected after the official test period was completed. The questions were added to a larger post-test that was developed for the overall project.

The questions helped to determine how many people actually visited county offices, how much publicity was done each week to support the use of the self-teaching center programs, and how visible the center was in the county office. (Refer to Appendix F for post-test questions.)

Types of Analysis

Study of the collected data was conducted through the Statistical Package for the Social Science computer program at the South Dakota State University Data Processing Center.[25]

The first phase of research was to conduct a frequency analysis of all numbers provided to obtain statistics such as mean, median, mode, range, and standard deviation.

Simple frequency counts and tallies were used to provide data such as the total number of uses of the "Select-A-Fact" centers, number of uses for both projection systems, times and dates when the centers were used, and basic reasons for using the machines.

An analysis of standard deviation was used to examine some of the information. Earl Babbie, in his book, The Practice of Social Research, said that standard deviation is a sophisticated method of

establishing dispersion. It will help to correct for any extremes in use at either end of a scale.[26]

The study used standard deviation to determine the average length of time the majority of people spent using the self-teaching centers and the type of work the county staffs conducted with the centers (from promoting the use of the centers to working with the self-teaching centers themselves).

Some of the data was further examined, using either a test of multiple regression or an analysis of variance.

A number of independent variables in this study may bear a direct relationship to the number of times the self-teaching centers were used. Some that are of interest in this study include (1) the amount of promotion that was released by the county offices concerning the self-teaching centers, (2) the number of people who visited the county office on a weekly basis, (3) the total number of people available in the county to visit the county office, (4) the type of projection equipment used in the centers, and (5) the visibility of the centers to people who came into the county office. Multiple regression was used to determine the strength of these relationships to the dependent variable of center usage.

Kerlinger, in his book, Foundations of Behavioral Research, said that multiple regression is a strong test to indicate if there are any relationships between a series of independent variables when regressed agains a specified dependent variable. Multiple regression will indicate if any of the variables do related and how strong their

there are three different sized county samplines (determined by population size), there are two types of self-teaching center projection systems (videocassette and slide-tape), and there are twenty monthly report periods for each county.

While the independent variables may affect the use of the self-teaching centers, variance within the groups of independent variables may also play a role in the center use.

To test for this, Welkowitz, Ewen, and Cohen in their book, Introductory Statistics for the Behavioral Sciences, suggest using a two-way analysis of variance.[28]

This test helps to show the relationship between the means of two or more independent variables and a dependent variable, where each independent variable has two or more levels. It shows, in addition, the variations within the independent variable groups. It also helps to explain if there is a different effect on the dependent variable if two or more of the independent variables are interacted and then regressed on the dependent variable.[29]

FOOTNOTES

[26]Earl Babbie, The Practice of Social Research (Belmont, California: Wadsworth Publishing Company, Inc., 1979), p. 379.

[27]Fred Kerlinger, Foundations of Behavioral Research (New York, N.Y.: Holt, Rinehart and Winston, Inc., 1973), pp. 630-631.

[28]Joan Welkowitz, Robert Ewen, and Jacob Cohen, Introductory Statistics for the Behavioral Sciences (New York, N.Y.: Academic Press, 1971), pp. 200-205.

[29]Ibid.

CHAPTER III

ANALYSIS

The analysis of data in this study is presented in two parts. The first part deals with frequency counts and the second part with a regressional analysis of selected variables against the number of programs used in each participating county Extension office.

Frequency Counts

A questionnaire was filled out each time a self-teaching system was used in a participating county Extension office. The cards were then collected and returned on a monthly basis between February 1978 and December 1979. The usage questionnaires contained ten questions. The first six questions determined when the programs were used, what programs were used, and reasons for use. The next two questions were designed to insure that the program content and the way in which the programs were presented (in a self-teaching format) were acceptable to center users. The final two questions were open-ended; they enabled the participants to give their viewpoints about additional programs and how the self-teaching center might be improved.

The county staff in the participating Extension offices were also required to fill out a report each month. This form had two parts. The first six questions helped to determine who on the staff worked with the self-teaching center and how many hours they spent with the centers each month. The second half of the report contained

five questions and helped to indicate what types of work were being done by the county Extension staff.

During the test period, 782 center usage cards and 253 monthly staff report cards were collected. Some of the monthly staff reports needed additional information; it was collected through telephone conversations.

Only 271 of the self-teaching center usage cards were accepted for analysis. Most of the rejected questionnaires were filled out when participants watched the programs as part of a large group. The study was only interested in studying responses from those who used it by themselves or in groups of no more than four people.

Uses by Month

Self-teaching center participants were asked to indicate the day they viewed the program. During the test period, 59 percent of the uses were recorded during the months of January through April. In 1978 there were eighty-five responses during this period (excluding January because the sampling began in February of that year) representing 31 percent of all the test responses. In 1979, during the same months 28 percent--seventy responses--of the total use was recorded. The centers were used least during August, September, and October of both years. These months, when combined, represented 22 percent of the use.

Use by Time of Day

Center users were asked to specify the time of day they viewed center programs.

Table 1 shows that while there was some activity in the morning, especially if both systems were available, the peak use hours were between 1 and 4 p.m. During this time, 36 percent of all uses were recorded in the counties that had both projection systems available. In counties where only one system could be used, 43 percent of the total use was during the 1-4 p.m. period.

Use by Program Title

Table 2 shows the number of times a specific title was viewed during the test period. The programs were released in three sets. The first set was sent out when the self-teaching center equipment was distributed to the county office. The next two sets followed at five month intervals. Three of the five most popular titles were related to horticulture. These topics included Landscaping the Home, Pruning Deciduous Trees, and Pruning Evergreens. Seven of the ten most often used shows were from the first set of programs that was released to the counties.

Use Compared to System Availability

The total number of center uses per county was compared to the type of projection equipment that was available in each county. This was done to determine if the availability of either or both videocassette and slide-tape systems would help predict center use.

TABLE 1

USE BY TIME OF DAY

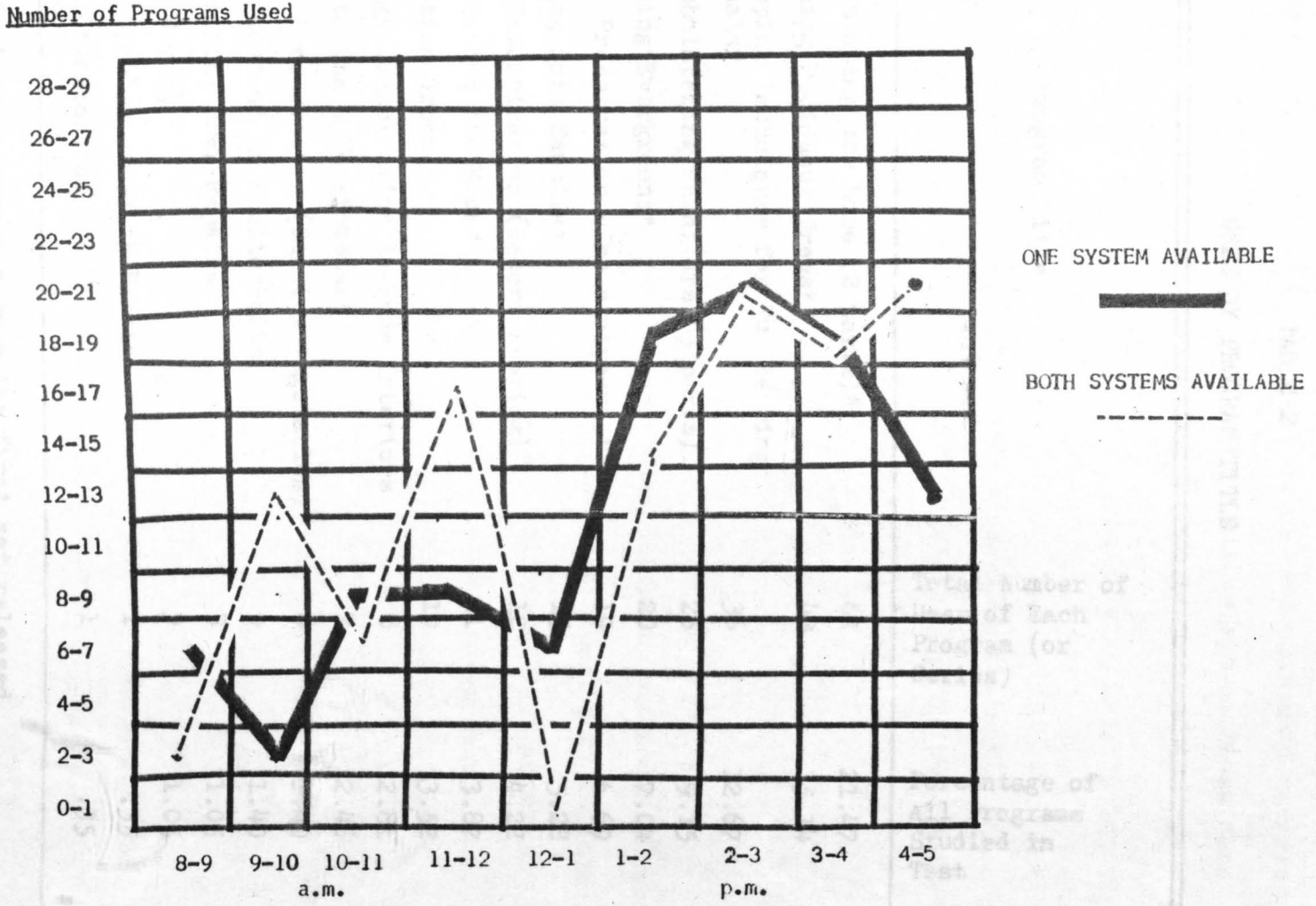


TABLE 2

USES BY PROGRAM TITLE

Program Title	Total Number of Uses of Each Program (or Series)	Percentage of All Programs Studied in Test
1. Landscaping the Home (2 parts)*	61	21.47
2. Pruning Deciduous Trees*	43	15.14
3. Trapping Techniques for Fur Bearing Animals*	36	12.67
4. Reupholstering Furniture (3 parts)	26	9.15
5. Pruning Evergreens*	20	7.04
6. Food Preservation (The equipment)*	19	6.69
7. Taking Soil Samples*	15	5.28
8. 4-H Demonstration (Record Keeping)	12	4.22
9. Insulating the Home*	11	3.87
10. Planting Trees	10	3.52
11. Energy Conservation in Home Interiors	8	2.81
12. How to Use a Tensiometer*	7	2.46
13. Food Preservation (Canning Vegetables)	4	1.40
14. Weed Control in Shelterbelts	4	1.40
15. Electrical Home Repairs	3	1.05
16. Food Drying	3	1.05
17. Tree Species of South Dakota	1	.35
18. Well Chlorination	1	.35

*Indicates a program from the first set released.

When both systems were available, the videocassette machines accounted for 90 percent of all uses. The slide-tape machines were only used a total of twelve times, or about 8 percent of the use. There were nineteen instances where both systems were used during the same sitting.

When only one projection system was available the videocassette was used most frequently. Fifty-nine percent of the single system uses were videocassette. Forty-one percent of the single system use was slide-tape.

Reuse of the Centers and Reasons for Use

One of the questions from the usage analysis cards was changed midway through the test period. During the first year, participants were asked if they had previously used the self-teaching equipment. Of the 144 total responses, 126 people said it was their first time, eighteen said they had used the centers before.

During the second half of the test, viewers were asked to explain in their own words why they had used the centers. Their responses were then put in eight categories. One category was used to classify those responses that were too hard to place in one of the other definitions of use. Table 3 shows that 33 percent of the time participants said they used the centers to learn a process.

Use by County Size

Each user was asked to mark the county in which he used the center. There were four counties in each of the three test groups

TABLE 3

REASONS FOR CENTER USAGE

Reasons for Using the Centers	Total Responses	Percent of Total
1. To learn a process	38	33.62
2. Interested in how the self-teaching center works	21	18.58
3. For help with a 4-H related activity	13	11.50
4. Home improvement needs	11	9.73
5. For home management needs	7	6.19
6. For leisure activity information	3	2.65
7. For agricultural production information	2	1.76
8. Other reasons*	18	15.92

*The most often mentioned reasons included workshop preparations, waiting to do something else, and agent asked them to use machine.

and also in the control group. Each group had one large, one small, and two medium-sized counties (size determination was made by total number of people in a county, using 1970 census figures).

The large population (16,000 people or more) counties accounted for 45 percent of the self-teaching center uses. The medium sized counties accounted for another 40 percent, but there were twice as many medium-sized counties sampled. The medium-sized county uses also fluctuated greatly. In every test group, a medium-sized county accounted for either the largest or smallest number of uses. The small counties reflected a fairly consistent low use throughout the test groups.

Length of Center Viewing Time

To obtain an idea of how long participants would sit to view programs, viewers were asked to estimate, to the nearest five minutes, how long they spent with a particular self-teaching projection system. The average program length was ten minutes. The shortest show was six minutes and the longest was twenty minutes.

Table 5 shows that while some people spent as little as five minutes and some as long as an hour viewing programs, the average viewing time was from ten to fifteen minutes in 47 percent of the cases when both systems were available. If only one system was available, people used the systems for ten to fifteen minutes 64 percent of the time.

TABLE 4

USE BY COUNTY SIZE

	No. of Uses	% of Test Group	% of Total
Counties with Both Systems			
Beadle (Large)	61	43.57	21.86
Gregory (Medium)	43	30.71	15.41
Meade (Medium)	14	10.00	5.01
Hyde (Small)	22	15.71	7.88
Total	140		50.16
Counties with Videocassette Systems Only			
Brookings (Large)	29	39.18	10.39
McCook (Medium)	33	44.59	11.82
Hand (Medium)	11	14.86	3.94
Hughes (Small)	1	1.35	.35
Total	74		26.50
Counties with Slide-Tape Systems Only			
Yankton (Large)	25	47.16	8.96
Davison (Medium)	2	3.77	0.71
Clay (Medium)	18	33.96	6.45
Faulk (Small)	8	15.09	2.86
Total	53		18.98
Control Counties (Programs used in slide-tape format only)*			
Brown (Large)	7	58.33	2.50
Perkins (Small)	1	8.33	.35
Shannon (Medium)	0	0	0
Lake (Medium)	4	33.33	1.43
Total	12		4.28

*Control groups were allowed to use the programs for large group presentations.

TABLE 5

LENGTH OF CENTER VIEWING TIME

Test Group	Frequency of Use (Indicated in Minutes)							
	5	10	15	20	25	30	45	60
Both Units Available								
Videocassette	7 (4.0)	27 (15.69)	42 (24.41)	30 (14.44)	0	24 (14.03)	0	1 (.58)
Slide-Tape	9 (5.23)	1 (.58)	11 (6.39)	7 (4.06)	0	6 (3.48)	0	7 (4.06)
One Unit Available								
Videocassette	6 (.51)	23 (19.82)	26 (22.41)	5 (4.31)	0	9 (7.75)	1 (.86)	2 (1.72)
Slide-Tape	1 (.86)	9 (7.75)	16 (13.79)	8 (6.89)	0	7 (6.03)	0	3 (2.58)

NOTE: () = % representing total of one test group only.

Responses to Usefulness and Quality of Presentations

Two of the questions dealt with the quality and usefulness of the programs available through the self-teaching centers. Generally negative responses in these areas might signal a rejection of the centers because of poor programs and/or of the self-teaching concept itself.

When viewers were asked if this was a good way to present this information, an average of 81 percent of all those who used the self-teaching centers said it was a better than average or good way to present such information (see Table 6).

TABLE 6

QUALITY OF PROGRAM PRESENTATION

Test Group	Good 5	Above Average 4	Average 3	Fair 2	Poor 1
Both Units Available	75 (58.59)	31 (24.21)	8 (6.25)	2 (1.56)	12 (9.37)
One Unit Available	96 (67.13)	21 (14.68)	16 (11.18)	1 (.69)	9 (6.29)

NOTE: () = % from test group only.

Eighty-two percent of all the viewers responded that the information was either useful or very useful (see Table 7).

TABLE 7

RESPONSE TO USEFULNESS OF PRESENTATIONS BY CENTER USERS

Test Group	Very Useful 5	4	Fairly Useful 3	2	Of No Use 1
Both Units Available	66 (56.89)	33 (28.44)	14 (12.06)	1 (.86)	2 (1.72)
One Unit Available	75 (55.97)	31 (23.13)	22 (16.41)	5 (3.73)	1 (.74)

NOTE: () = % from test group only.

County Staff Time Spent With Centers

Staff from all the participating county Extension offices also filled out a monthly report card. Six questions helped to define who was working with the self-teaching centers and how much time each staff member contributed on a monthly basis.

Table 8 shows that the county agent and staff secretary did much of the work. The secretary accounted for 32 percent of the work load while the agent contributed 28 percent. The home economist accounted for another 18 percent, while 26 percent of the time no one was working with the centers.

Type of Work Related to the Self-Teaching Centers

The labor involved in operating the centers was divided into five categories. The staffs also had a chance to explain any other work not described in the report card. Table 9 indicates that

TABLE 8

COUNTY STAFF TIME SPENT WITH CENTER

Staff Member Title	No. of Monthly Staff Reports Signed	% of Total Staff Reports
Secretary	80	40.60
Agent	71	36.04
Home Economist	46	23.35
Monthly Cards Indicating No One Worked With Center	52	26.39

TABLE 9

TYPES OF COUNTY STAFF WORK DONE WITH SELF-TEACHING CENTERS

Work Description	% of Total Time (monthly basis) 0-20	21-40	41-60	61-80	81-100
Setting up Equipment	32	26	21	8	2
Explaining Center Functions	33	35	13	2	1
Answering Followup Questions	31	25	9	5	0
Repairing Equipment	31	1	0	0	0
Other Center Activities	4	2	0	1	12

setting up the machinery for use and explaining how the centers worked accounted for 60 percent of the work. Twenty-eight percent of the time was expended in followup question and answer sessions with those who had just viewed a program.

Program Suggestions and Comments

The final two questions on the usage cards were open-ended to enable the viewer to express his or her opinion about the self-teaching experience and to give them a chance to suggest additional programming.

Appendix D lists thirty-nine topics that were suggested for future programs. The most often recommended topics were tree pruning, sewing tips, gardening techniques, and lawn care.

There were also ninety-two general comments about the self-teaching systems. Seventy percent of the comments discussed the good quality of the presentations and another 10 percent indicated that they wanted more information on the topic being discussed. (Refer to Appendix E for comments on the self-teaching centers.)

Post-Test Frequency Counts

After the two year period was completed, some additional questions were sent to the twelve county offices that participated in the study. The post-test questions sought to learn more about six independent variables in the county office that may help to stimulate usage of the self-teaching centers.

There were multiple responses from some counties. The questionnaire with the most conservative estimate was chosen to represent that county in all cases. Raw numbers of responses to each question can be found on a sample of the post-test found in Appendix F.

Numbers of People Regularly Visiting County Office

Of the twelve counties involved in the study, 83 percent of the counties reported that fifty-one to seventy-five people visited their county offices during an average week. In informal conversations with the staff concerning this question, some said that this figure changed considerably depending on the time of the year. Beadle county had the largest number of average weekly visitations with 101-200.

County Traffic Patterns Within the Extension County Office

Eleven of the twelve participating counties said that most of the county meetings were held in the Extension office's facilities, but in 58 percent of the offices people did not have to go through the main office areas (where the self-teaching units were to be set up) to get to the meeting room.

Center Visibility

The county staffs were also asked how quickly people could see the self-teaching centers upon entering the county Extension

office area. Ten of the twelve offices, 83 percent, said the centers could be seen immediately or with little additional effort.

Amount and Types of Publicity

About half of the participating counties promoted the self-teaching centers through media more than once or twice every six months. Radio was used most often for publicity. Eight out of the twelve counties used radio 50 percent or more of the time and all counties used radio at some point in their publicity efforts. Ten of the twelve study counties also used some newspaper and newsletter coverage. Fifty percent of the counties also indicated some use of television. All other forms of publicity were used less than five percent of the time.

When asked if they felt publicizing through the media had any relationship with the degree of usage of the centers, 83 percent said that it had either some or slight effect.

Additional Comments from Staff

Many of the county staff members commented about the study on the post-test form. The most often repeated comments included: a concern over the fact that the counties could not use the equipment for large group presentations, a concern over the location of the machinery in their office, and complaints about not having enough programming related to agricultural production topics. Others said additional programming would have helped overall usage in their county. For a complete list of comments, refer to Appendix G.

TABLE 10

TYPES OF PUBLICITY USED BY COUNTY EXTENSION OFFICES TO PROMOTE USE OF SELF-TEACHING CENTERS

Participating County	Media Used (in Percentages of All Media Used in County)			
	Television	Radio	Newscolumns	Newsletters
Brookings	25	50	10	15
Hand	0	30	50	20
Hughes	30	50	10	10
McCook	0	50	20	20
Davison	25	55	20	0
Faulk	0	50	0	50
Yankton	0	25	50	25
Clay	33	33	33	0
Beadle	25	45	20	10
Meade	10	40	30	20
Hyde	0	25	25	50
Gregory	0	80	0	20

NOTE: There were no or very low percentage responses (5 percent or less) to word of mouth, posters, or other media forms.

Regressional Analysis

The six variables in the study were tested by stepwise multiple regression to help explain levels of use of self-teaching centers in twelve County Extension offices of the South Dakota Cooperative Extension Service.

Table 11 indicates that the first two independent variables listed (amount of publicity and number of meetings held in county office) accounted for 41 percent of the variation in the dependent variable (number of programs used).

The amount of weekly traffic through the county office and the number of people that must walk through the office to get to the meeting accounted for another 12 percent of the variance. Very little of the variance (less than 2 percent) was explained by attitude towards publicity or center visibility.

These six variables in this test accounted for a total of 57 percent of the overall variance in the dependent variable. None of the independent variables was significant at the .10 level of confidence when the appropriate F test was applied. Two of the independent variables (publicity and number of meetings in the office) were significant at the .30 level.

Some of the variables that might help complete the explanation of self-teaching center use could not be reviewed due to time or funding restrictions. Attitude change within the staff was being reviewed in a larger study (of which this study is a part), limited funds allowed only a minimum number of programs to be produced,

testing for results with group use and also researching design and location specifications for the centers could be more completely accomplished in separate studies.

TABLE 11

RESULTS OF MULTIPLE REGRESSION ANALYSIS OF TOTAL NUMBER OF USES OF SELF-TEACHING CENTERS ON A COUNTY BY COUNTY BASIS TO 6 COUNTY OFFICE VARIABLES IN SELECTED SOUTH DAKOTA COUNTIES

County Office Variables	Coefficient of Determination (R^2)	R^2 Change	F Test at .10*
Amount of Publicity**	.287	.287	3.385
Number of Meetings Held in County Office**	.424	.136	1.603
Amount of Weekly Traffic Through the County Office	.493	.069	.814
Number of People That Must Walk Through the Office to Get to Meeting	.555	.062	.732
Attitude Towards Publicity	.569	.014	.168
Center Visability	.574	.005	.050

*F test needed a level of 5.6 for significance.

**Significant at P .30--F test needed a level of 1.29 for significance.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER RESEARCH

The Problem

This study set out to examine the potential of using self-teaching centers in selected county offices of the South Dakota Cooperative Extension Service. The problem statement was, "Would self-teaching centers (using either one-half inch videocassette or 35 mm slide-tape projection systems) be an appropriate way to disseminate information to the people who use the services provided by the South Dakota Cooperative Extension Service county offices?".

This kind of research in testing support materials that might be used on the county level has been going on for years within the Extension Service. With the increasing costs of transportation, the need for such research continues to grow. The South Dakota Cooperative Extension Service may use this study to help determine if such centers have a place in the list of audio-visual devices currently being used.

Design and Procedure of the Study

Twelve South Dakota County Extension offices representing three different population densities were chosen to participate in the two-year use analysis study.

During this time three different questionnaires were used. Two of the questionnaires were released when the equipment was

distributed. The third was distributed to the participating county staffs after the test period was completed.

The self-teaching center consisted of a portable table with two shelves. The top shelf held part or all of the projection system while the bottom shelf held the programs. The self-teaching projection systems tested were 35 mm slide-tape machines (Bell and Howell Ring Master projectors) and 1/2-inch videocassette playback systems (Sony Betamax with 15-inch Sanyo color monitors). Descriptions of both projection systems can be found in Appendix H. The table had a pegboard backdrop to display fact sheets relating to the center programs.

The self-teaching system was to be located somewhere within the county office where it could be readily seen and easily used without interfering with the traffic patterns.

One of the questionnaires was to be completed each time a person used the self-teaching center. Another form was completed by the county staff on a one per month basis. Usage forms and one staff report form were then returned to the Agricultural Information each month for tabulation and storage.

A post-test was conducted after the use survey was completed. Each county was requested to supply information concerning such variables as center visibility, amount of office traffic, and use of publicity.

Computer facilities at South Dakota State University were used to compile the simple frequency counts and to also aid in a regressional analysis from material gathered in the post-test.

Major Findings

There were 786 questionnaires collected from people who used the self-teaching centers. Only 34 percent (or 253 of the forms) were used in the final analysis. Questionnaires were rejected if they suggested that more than two individuals had used the system at the same time. The study was only interested in testing the merit of using the self-teaching centers when one or two people used the system.

The centers received their most extensive use during the first four months of the test period (February through May of 1978) and also during the first three months of the second year of the test period (January through March of 1979). When the uses during these two time periods were combined they accounted for 31 percent of all self-teaching center uses.

During the day, the centers were more often used between one and four in the afternoon. During this time, 35 percent of all the uses were recorded.

Thirty-three percent of the viewers said the main reason they used the center was to learn a process. Participants spent an average of ten to fifteen minutes using the self-teaching centers.

Eighty-one percent of the viewers said the self-teaching centers were an above average or a good way to present information.

Eighty-two percent of the viewers also said the information was either above average in usefulness or very useful.

When given a choice of projection systems, 90 percent of the users chose the videocassette format. When only one system was available, 59 percent of the total uses were from videocassette; the other 41 percent were from slide-tape viewings.

Counties with large populations reflected the highest uses of the self-teaching equipment and small populations counties refelected a correspondingly low use. The medium-sized counties fluctuated greatly. In each experimental group, one medium-sized county had the highest or lowest use in the group.

In data related to the county staff, the secretary accounted for much of the self-teaching center workload (40 percent). Over 50 percent of the labor was involved in setting up the equipment, explaining how it worked, and then answering followup questions.

Post-test data indicated that 83 percent of the counties had traffic levels that averaged between fifty-one and seventy-five visitors per week. The largest traffic flow was between 101 and 200 people per week and it was recorded by the most effective self-teaching center user (Beadle county). While over 90 percent of the large group meetings were held in the county office facilities only four of the twelve counties indicated that the people had to pass through the main office (where the self-teaching centers were supposed to be set up) to attend those meetings. The publicity efforts averaged less than a story or two every six months in 54

percent of the study counties. The most successful counties had the strongest publicity campaigns.

Conclusions

The study data pointed out many different factors that may influence the number of times a self-teaching center is used.

The number of people in a county and the amount and types of traffic flow played a major role in the use of the centers in this study. The heaviest populated counties had either the highest or next to highest use in each group. In the regressional analysis, three independent variables concerning the amount and type of traffic flow were evaluated. When combined, these three variables explained 26 percent of the variance. Such information suggests that if only a few self-teaching units will be allocated, those counties with large populations and with heavy traffic flows through the main office should be given highest priority.

Publicity also played an important role in the final number of uses per county. The regressional analysis indicated that 28 percent of the total variance was due to publicity. The two counties with the most regular publicity effort also had the largest number of center uses. The study data also indicated that radio, newspaper, and newsletters were the most frequently used forms of communication. In telephone conversations with the county staffs and in comments turned in on the post-test, the staff members expressed their concern about the lack of publicity and also that more publicity should have been developed at the state level to support their efforts.

One of the initial ideas behind the self-teaching centers was that it was supposed to free the county staff to help them reach more people. But if the agent and home economist have to produce the necessary materials to get the centers publicized, it could jeopardize that concept. This information suggests that all publicity materials concerning the centers and center programs should be produced before the equipment or shows are released to the counties. It also seems useful to develop materials for both print and broadcast outlets.

Even though the county participants were told not to use the self-teaching equipment for group meetings (except for initial publicity of the centers), over 500 of the questionnaires were filled out by people who had viewed the programs in a meeting situation. This is easier to understand when it is realized that prime teaching tools of South Dakota County offices have been through group meetings and one-to-one consultations with county staff. Datum shows that over 80 percent of those who took the time to use the self-teaching centers did like the concept and felt the programs were above average or better. These people also suggested thirty additional topics that they felt would fit such a format. Under such circumstances it seems justified that the self-teaching center projection equipment should be used for large group meetings and other county office tasks when not being used as a self-teaching aid.

The study data pointed out certain times of the year and day when it would be better to use the projection equipment only as a self-teaching device. The largest number of uses came between January and April, which is also the time of the year when the most people visit the county office. During the day, the heaviest use of the self-teaching centers was between one and four in the afternoon. This information suggests that it would be best to leave the equipment as a self-teaching device (at least during office hours) during the early part of the year and that the equipment should be available especially in the afternoon.

Program length must also be considered in the timing factor. Study datum showed that the majority of viewers were willing to spend between ten and fifteen minutes with the centers. Any additional programs produced for such a system might need to follow such guidelines to insure maximum use.

The study examined two forms of projection equipment. The videocassette format proved to be much more popular when people had a choice between it and slide-tape presentations; but the slide-tape projection equipment was almost as efficient as videocassette when only one system was available. In the review of the literature, it was noted that slide-tape productions were easier to edit if only part of the information went out of date. Initial costs of slide-tape equipment are also much lower than videocassette. The slide-tape projection systems used in this study cost $389 while the videocassette projection systems cost $989 (excluding the cost of the

television monitor). Slide-tape equipment can be used to project an image on a large screen; videocassette systems still rely on smaller television monitor systems. With such factors playing a major role, it seems likely that slide-tape would be the first choice in determining a system that was truly cost effective.

While it was apparent before the test that the county staff members would need proper orientation, the data strongly suggests that who gets this backgrounding is as important as what is taught about the self-teaching centers.

In this study the secretary ended up being responsible for the self-teaching centers 40 percent of the time. This is not an unusual situation as far as informal duties in a county Extension office. In many cases the secretary is the first (and sometimes the only) contact a visitor makes while visiting the office. The secretary may decide if the client needs written information or if he or she needs to visit with the agent or home economist to get the proper information. The secretary could just as easily be the final decision maker as to who will and will not benefit from using the self-teaching center. In consideration of such circumstances it seems apparent that the secretary should be completely involved in all orientation sessions dealing with the establishment of a self-teaching center in a county office. If the staff does not feel the secretary will do an adequate job with the center operation, strong guidelines should be adopted to insure that this staff member does not have an effect on use of the center. In either case it would

be helpful to develop a complete list of written instructions describing the center's programs and how the center equipment is supposed to be set up and used.

Possible Related Research

This study looked at a very specific aspect of self-teaching. From what was seen in the literature, it may be the first review of its kind. There are a number of additional questions that need answering before a complete set of guidelines can be established to help other counties develop self-teaching systems that will prove cost effective.

Throughout this study some of the following questions arose that still need to be reviewed.

There was a continual demand for additional programs from the county offices. It would be important to know how many programs are needed to insure maximum use of the centers. What additional subject matter would entice the broadest spectrum of clients to use the centers? Is it possible that so many programs must be available to make the centers effective that most counties would not have adequate storage space to keep the necessary quantity of programs? There could be a major switch in topics if the audience changes. What happens if the self-teaching centers are compared in heavily urban and basically rural counties?

Would changing the physical design of the self-teaching centers encourage more people to use the equipment? The counties in this study all indicated they had adequate space to set up the

centers, but did they? It seems essential that some type of guidelines be established as to the size of the centers and what would be the minimum space requirements for equipment and program storage.

In this study's conclusions it was suggested that the self-teaching center equipment should also be used for large group uses. It may be useful to compare the amount of difference in use between multiple uses of the equipment and situations where the equipment can only be used in self-teaching centers. Does multiple use of the projection equipment help publicize the self-teaching concept?

If slide-tape projection systems are more cost effective than videocassettes, but less popular, is there an ideal way to set up slide-tape self-teaching systems to offset these factors? Are there other projection devices that are more popular than videocassette and slide-tape when the projection systems are used in this manner?

Certainly regional differences will arise from any test situations, but a series of general guidelines should emerge which will help to make any future decision concerning self-teaching centers in county Extension offices.

APPENDIX A

APPENDIX A

Participating Counties Using Both Slide-Tape and Videocassette		Location
Brookings	(Large population)	Brookings
McCook	(Medium population)	Salem
Hughes	(Small population)	Pierre
Hand	(Medium population)	Miller
Participating Counties Using Slide-Tape		
Clay	(Large population)	Vermillion
Davison	(Medium population)	Mitchell
Yankton	(Large population)	Yankton
Faulk	(Medium population)	Faulkton
Participating Counties Using Videocassette		
Gregory	(Medium population)	Burke
Beadle	(Large population)	Huron
Hyde	(Small population)	Highmore
Meade	(Medium population)	Sturgis
Control Group (Counties who could obtain the self-tape program through regular channels)		
Brown	(Large population)	Aberdeen
Perkins	(Small population)	Bison
Shannon	(Medium population)	Martin
Lake	(Medium population)	Madison

Population size description: Large (13,000 and over), Medium (6,001 to 13,000), and Small (up to 6,000 people).

APPENDIX B

APPENDIX B

The following program titles and descriptions are the programs that were developed for use with the self-teaching equipment. All programs were available in either slide-tape or videocassette format.

Program 1 - HOW TO USE A TENSIOMETER

Extension Ag Engineer, Darrel Pahl, describes why the use of the tensiometer is so important to today's irrigator. He reviews how the instrument is set up in the field, some maintenance requirements and storage tips for the winter season.

Program 2 - PRUNING DECIDUOUS TREES

Extension Forester, Larry Helwig, reviews when deciduous trees should be pruned. He recommends various tools that will make the job easier. Methods for removing small and large branches are both reviewed with emphasis on the drop-crotch pruning method. Helwig also reviews the procedure for patching tree wounds.

Program 3--TAKING SOIL SAMPLES

Extension Agronomist, Earl Adams, stresses the most important aspects of the soil testing procedure. Some of these elements include obtaining a representative sample, using the proper equipment, preparing the soil for shipment and many others.

Program 4 - FOOD PRESERVATION--PART ONE, "THE EQUIPMENT"

Food preservation can be an exciting and profitable hobby if done correctly. Some special equipment is required and Extension Nutrition Specialist, Rosemary Ingram, looks at all the materials needed for the various forms of canning.

Program 5 - FOOD PRESERVATION--PART TWO, "CANNING VEGETABLES"

The cold pack and hot pack methods of canning vegetables are both discussed in depth on this second segment of the food preservation series. Extension Nutrition Specialist, Rosemary Ingram, looks at the methods of cleaning, cutting, and packing that are involved. She also discusses such items as jars, bands and lids, and various kinds of storage containers.

Program 6 - PRUNING EVERGREENS

On this program Extension Forester, Larry Helwig, looks at the various methods of pruning or shearing various types of evergreens. Helwig shows the differences between Pines, Junipers, Arborvitae, etc. Various forms of equipment are discussed. Ways to help even heavily overgrown specimens are discussed.

Program 7 - INSULATING THE HOME

Extension Ag Engineer, Louis Lubinus, reviews the various kinds of insulation that can be used in the home. He looks at the "R" factor and stresses where putting the correct amount of insulation will do the most good. A heavy emphasis will be on getting the basement and attic in good shape for the cold months.

Programs 8 & 9 - LANDSCAPING THE HOME

Extension Horticulturist, Dean Martin, examines the various trees, shrubs, flowers and exterior decorations that will help create a truly beautiful and useful landscape design for the modern home. Martin also shows the viewer how to plan a landscape design before ordering materials.

Program 10 - ENERGY CONSERVATION IN HOME INTERIORS

Light, wall decorations, furniture placement and the type of materials found in various rugs all play a part in how much heat your home is conserving. Extension Interior Design and Equipment Specialist, Nancy Helgerson, looks at these and many other factors that can not only make your home look warm, but at the same time save a lot of valuable energy dollars.

Program 11 - TRAPPING TECHNIQUES FOR FUR BEARING ANIMALS

Trapping can be one way of earning an extra income. But it is very important to use the right equipment and the proper trapping techniques. Extension Wildlife Specialist, Alan Wentz, reviews the kinds of fur bearing animals that can be trapped in the midwest and the equipment and techniques used for some of the more popular animals.

Program 12 - REUPHOLSTERING FURNITURE--THE EQUIPMENT

Recovering a piece of furniture can be a challenging but extremely satisfying experience. Faith Cahalan, Hand County Home Economist, reviews the tools you will need to do the best job. While many tools can be found in the workshop, there are special items you will want to rent, buy, or borrow if the piece needs extensive repair. A wide variety of reupholstering terms are also defined for the beginner.

Program 13 - REUPHOLSTERING FURNITURE--TECHNIQUES, PART I

The second and third parts of the reupholstering series are concerned with putting the furniture back together in the proper order. Various techniques concerning sewing, frame reinforcement and tufting are discussed. A number of different kinds of furniture are reviewed.

Program 13 - REUPHOLSTERING FURNITURE--TECHNIQUES, PART II

This program is a companion program to show number 13. It reviews some of the final phases of the reupholstering process including fabric fitting, stitching the back of the piece, choosing decorative buttons, etc.

Program 14 - PLANTING TREES

How you plant your trees will have a direct bearing on such aspects as winter hardiness, the plants' ability to get enough water, and how it holds up in stiff winds. Factors such as when to plan, seed source, hole preparation, and other important items are reviewed.

Program 15 - WEED CONTROL IN SHELTERBELTS

Winning the war on weeds in your shelterbelts should be a very important goal, especially for the first five years of that shelterbelts' existence. This program reviews the various cultivation methods and herbicide applications that have proven effective in this battle.

Program 16 - ELECTRICAL HOME REPAIRS

A number of small electrical repairs can be made around the home that will save the homeowner time and money. There is also a checklist of the items that may stop a fire from starting because of faulty or broken wiring. This program reviews those aspects and also looks at some tips in small appliance motor repair.

Program 17 - 4-H DEMONSTRATION--RECORD KEEPING TECHNIQUES

Record keeping is a part of everyday life for many adults. That is why learning this skill in 4-H can be a real asset later on. This program reviews all the techniques needed to keep accurate records including the accumulative report, the 4-H members Annual Report, your 4-H story, pictures, clippings and correspondence.

Program 18 - WELL CHLORINATION

Many farm producers must chlorinate their wells each year to insure that they do not have problems when it is time to irrigate. This program presents a step-by-step description of well chlorination and the equipment that is needed to do the job properly.

Program 19 - CANNING TOMATOES

Tomatoes are one of our more popular fruits, but they only seem to be available in the fall, unless they are canned. Here are some of the tested methods for canning and storing this important fruit. Our Extension Nutritionist, Rosemary Ingram, shows the techniques and discusses where you can pick up further information on this useful and profitable hobby.

Program 20 - TREE SPECIES FOR SOUTH DAKOTA

Dutch Elm disease has all but run its course in many portions of South Dakota but in its wake, thousands of yards, boulevards, and shelterbelts are missing valuable trees. This program looks at some of the primary tree species that will grow well in South Dakota. Extension Forester, Larry Helwig, discusses some of the important individual characteristics of each tree. Viewers will get a good idea of how the trees would fit into and become part of our landscaping needs.

Program 21 - FOOD DRYING

Food drying is an ancient art that is being rediscovered. This program reviews the basic processes involved in preparing and then drying various kinds of food products.

APPENDIX C

APPENDIX C

SELECT-A-FACT - MONTHLY STAFF REPORT

1. MONTH AND YEAR _____

2. COUNTY _____

3. NAME OF PERSON FILLING OUT THIS FORM _____

_____

HOW MUCH TIME DID EACH INDIVIDUAL LISTED BELOW HELP WITH THE SELECT-A-FACT CENTER THIS MONTH? (A GENERAL ESTIMATE IN HOURS)

4. BY THE HOME ECONOMIST(S) _____

5. BY THE COUNTY AGENT(S) _____

6. BY THE SECRETARY(S) _____

HOW WAS THIS TIME SPENT? PLEASE LIST BY GENERAL PERCENTAGES ONLY. (IF YOU DID NOT DO SOME OF THESE TASKS JUST LEAVE THE SCALE BLANK.) THE PERCENTAGES NEED NOT TOTAL EXACTLY 100 PERCENT.

7.	SETTING UP OR STARTING EQUIPMENT	0-20	20-40	40-60	60-80	80-100
8.	EXPLAINING HOW THE CENTER WORKS	0-20	20-40	40-60	60-80	80-100
9.	ANSWERING QUESTIONS AFTER THE PROGRAM WAS VIEWED	0-20	20-40	40-60	60-80	80-100
10.	REPAIRING THE EQUIPMENT	0-20	20-40	40-60	60-80	80-100
11.	OTHER (PLEASE EXPLAIN BELOW)	0-20	20-40	40-60	60-80	80-100

_____

_____

_____

_____

SELECT-A-FACT USAGE FORM
(Both Units)

This information will help the South Dakota Cooperative Extension Service decide how the Select-A-Fact centers can be used in other county Extension offices throughout the state. Thank you for your help . . . your answers will really count!

1. DATE _____

2. WHEN DID YOU WATCH THIS SHOW _____

3. WHAT SHOWS DID YOU VIEW _____

_____

4. COUNTY _____

5. WHY DID YOU VIEW THIS/THESE PROGRAMS _____

_____

6. HOW LONG DID YOU USE THE TELEVISION MONITOR?

(CIRCLE ONE) 5 MIN. 10 MIN. 15 MIN. 20 MIN. 30 MIN.

6A. HOW LONG DID YOU USE THE SLIDE/TAPE MACHINE?

(CIRCLE ONE) 5 MIN. 10 MIN. 15 MIN. 20 MIN. 30 MIN.

7. DO YOU FEEL THIS IS A GOOD WAY TO PRESENT THIS KIND OF INFORMATION?

POOR		AVERAGE		GOOD
1	2	3	4	5

8. WAS THIS INFORMATION USEFUL?

	OF NO USE		FAIRLY USEFUL		VERY USEFUL
(CIRCLE ONE)	1	2	3	4	5

9. ARE THERE OTHER TOPICS THAT WOULD BE OF USE TO YOU _____

_____

10. COMMENTS _____

_____

SELECT-A-FACT USAGE FORM
(One Unit Only)

This information will help the South Dakota Cooperative Extension Service decide how the Select-A-Fact centers can be used in other county Extension offices throughout the state. Thank you for your help . . . your answers will really count!

1. DATE _____

2. WHEN DID YOU WATCH THIS SHOW _____

3. WHAT SHOWS DID YOU VIEW _____

4. _____

4. COUNTY _____

5. WHY DID YOU VIEW THIS/THESE PROGRAM(S) _____

_____

6. HOW LONG DID YOU USE THE SLIDE/TAPE MACHINE?

(CIRCLE ONE) 5 MIN. 10 MIN. 15 MIN. 20 MIN. 30 MIN.

ON A SCALE OF 1-5, PLEASE CIRCLE WHAT YOU FEEL IS THE APPROPRIATE NUMBER FOR THE QUESTION ASKED.

7. DO YOU FEEL THIS IS A GOOD WAY TO PRESENT THIS KIND OF INFORMATION?

	POOR		AVERAGE		GOOD
(CIRCLE ONE)	1	2	3	4	5

8. WAS THIS INFORMATION USEFUL?

	OF NO USE		FAIRLY USEFUL		VERY USEFUL
(CIRCLE ONE)	1	2	3	4	5

9. ARE THERE OTHER TOPICS THAT WOULD BE OF USE TO YOU _____

_____

10. COMMENTS _____

_____

APPENDIX D

APPENDIX D

ARE THERE OTHER TOPICS THAT WOULD BE USEFUL TO YOU?

Beef Fitting and Showmanship
Grooming Calves and Other 4-H Projects (3 responses)
Skinning Furbearers
More on Home Decorating
Anything Pertaining to Farming and Livestock (2 responses)
Gardening and Sewing
Zipper Application
Taking Care of the Outside of the House (2 responses)
Flower Arranging
Livestock Nutrition
More on Gardening (5 responses)
Hunting Techniques (2 responses)
Sewing Techniques and Household Information (8 responses)
Cake Decorating
Heat Loss Through Windows
Drying Fruits
Pruning Fruit Trees (6 responses)
How to Build a Food Dryer
House Plant Care
Drying Fruit
Refinishing Furniture and Spot Removal
Making Drapes and Cornices
Food Preparation
Range Management and Plant Identification
Sheep--Wool
How to Transplant Bushes
Grass Planting and Lawn Care (2 responses)
Finishing Furniture and Reupholstery (2 responses)
Any Topic on Home Improvement
Pruning Roses
Small Electrical Equipment Care and Auto Maintenance
More Information of Shrubs
Soybean and Alfalfa Production Techniques
Chain Saw Operation and Maintenance
Wildlife Information
Livestock Housing
Swine Diseases
Horse Care
Judging Standards of Fruits and Nuts

APPENDIX E

APPENDIX E

COMMENTS

It will help me cover my own furniture and help others too.

Quite helpful. However apples should be pruned at once (I believe) and shade trees can be pruned well after leaves are out.

Very informative--interesting.

Very informative.

Could go into a little more detail on filling out all of the record sheets.

Very good will use others as the needs come up.

Very informative.

Very useful in line with personal program on landscaping held here.

Very good! Thank you.

Pretty good!

Very good educational tool.

Good educational tool.

This was shown to a 4-H group of 8 young boys.

Very interesting--decided where to start (sidewalks, etc.) then follow through.

Nice film but some slides were repeated too many times. Need more detail on how to plant some things.

The presentation I viewed was well prepared.

I'm going to view more.

Good idea.

Winter Technique.

I think this was a very useful program.

Some of the descriptions were not at everyday understanding.

Fact sheet a necessity for further use.

Should be seen a couple of times before one uses the information.

4-H club viewed #17. 11 viewed it.

Looking for something a little more advanced. Real good basics.

We as a scout troup were interested in it.

Get some more tapes in about different subjects.

They started with a new home.

It was very interesting

Good teaching tool.

Answers basic questions without wasting anyone's time for long.

If readily available, this would be a super teaching aid.

Well worth the time.

Seasonal shrubs--the use of rock and wood trims--upkeep on the rock edging.

Will watch more of these.

Enjoyed the one on trees, very informative, tomato good also, however, on both programs the picture seemed real jumpy. Was hard on eyes to watch.

Very good for individual or small groups--up to 12.

This appears to be a very effective means for individual learning as well as group instruction.

Very good.

Thought it was very good.

How and what time of year.

We enjoyed it very much

This is a very interesting and informative way of learning subjects you need to know.

Gave good general as well as some specialized pointers.

Information of proper fertilizers to use and proper time to spread fertilizer.

They are well done.

Very good.

Nice way to educate general public--meetings are often hard to make.

Very good presentation--it could be watched over again if need be--would be good if agents are out of office.

I think more of these machines should be used throughout the state.

This is a very good program.

Will be back in.

Very interesting, wish this machine was available from 4 p.m. to 4 p.m.

Other topics--facts about mourning doves, general wildlife management, pheasant management and restoration programs.

GOOD.

I feel it could be a very good teaching aid and also information center.

Very good way to learn how to do something.

Very good.

Very effective, a picture is worth a thousand words.

None.

Good basic information. It gave reasons why certain colors should be used in preference to others. (Certain colors give a warmer feeling; others a cooler feeling, etc.)

Very good way to learn.

We appreciate the service.

A good way to become informed.

Good methods for education in field.

Well presented.

Very helpful.

Good.

Use pot holders when jars are supposed to be hot.

Excellent way to learn when you can watch when it's convenient. Good information.

Well presented and very informative.

This is great--we must spread the word so others can take advantage of this service.

Yes, any sewing techniques, household information is learned easier by watching rather than printed info. Very nice set-up.

It was a very interesting and enjoyable show.

I'm sure this is a good way to learn how to do some of the things you like to do in your own home. Showing pictures in acting and the results are easier for most people than just reading instructions.

Liked it very much.

No hand-out booklets for landscaping. It would be nice to have them.

No books on landscaping.

No handout material.

It is a good way--would be more helpful if trees and shrubs for the area where I live were named and a good nursery mentioned.

On the tape I saw they could have given more specific names of the trees and shrubs for this area.

Tape goes halfway, then starts over.

More useful if shown in winter conditions.

Using a combination of the two methods really gave the best coverage of knowledge.

APPENDIX F

APPENDIX F

The following questions were inserted in a larger post-test that was sent to all county offices that participated in the study.

55. How many people visit your office each week during regular working hours (8:00 a.m. to 5:00 p.m.)? We are interested in a typical work week. Please just indicate the number of people who actually visit your office, not phone contacts.

(check one)
__2__ 0-25 people per week. __3__ 26-50 people per week. __5__ 51-75 people per week. __1__ 76-100 people per week. __1__ 101-200 people per week. _____ 200 or more people per week.

56. Do people have to wal through the county office to get to meetings or other Extension activities? (circle) yes 4 no 8

57. Are most county meetings held in your Extension building? (circle) yes 11 no 1

58. When people enter the county office, how quickly were they able to see the "Select-A-Fact" center?

(check one)
__5__ Immediately. __5__ After a little effort. __1__ After a great deal of effort. __1__ Not at all.

59. How often did you publicize your "Select-A-Fact" system?

__1__ once or more per week
__4__ once or twice per month
__5__ once or twice every six months
__1__ once or twice every year

60. Which media did you use to publicize your programs? (What percent of the effort was devoted to each media? Make the total percentage add up to 100%)

_____% Television. _____% Radio. _____% Newspaper. _____% Other Media.

_____% Newsletter. _____ Word of Mouth. _____% Posters.

61. What do you feel was the relationship between publicity and the degree of usage of your self-teaching center?

(circle one)

1. None.	2. Slight.	3. Some.	4. Considerable.	5. Significant.
0	3	7	0	2

Other comments related to your experience with the study:

APPENDIX G

APPENDIX G

COMMENTS FROM POST-TEST

Hughes Home Economist:

The Select-A-Fact used in a small meeting within the courthouse (Extension Office) was effective. The fact that the machine was not easily portable made it harder to use.

Keeping new programs developed was another concern. Those people that did use the programs kept looking for additional programs to be added to the selection.

McCook Office Chairman and County Agent:

There was not enough production agriculture related sets. A number of people came in to watch but couldn't find a title they wanted to see. In our area the soil testing one was really the only production agriculture tape for them.

The kind of things I have specialists out for agriculture production meetings were by and large not addressed by tapes.

Brookings Home Economist:

I would really have liked to use some of the programs for group meetings. I think if everyone could have seen one completely through, they would have been sold on the idea and would have come to the office to see others. We did set it up for all our major organizational meetings during the first six months in home economics but because of the limitations could only show a small portion of the film. Our usage was slight and I was really disappointed because it seems like such a good idea. Maybe a news packet or several news packets would have made it easier to think of new ways to publicize the materials. I found writing stories about select-a-fact difficult.

Brookings Assistant Agent:

Those who used the select-a-fact seemed to be very satisfied because it gave them useful information. We need all the help we can get.

Brookings Office Chairman:

We would like to have used it as a teaching aid at meetings--I feel it has more application than as a self-teaching method.

Our unit was not in a room by itself and so maybe some were hesitant to sit in the outer office and watch TV.

If we had used it in a separate room, I feel the use would have been less yet since many that did use the Select-A-Fact did so after inquiring as to what the purpose of the unit was in our office.

Few made a special trip to our office to see a program.

Hand Home Economist:

Fine to write innumberable newstories however important to a program, concept, method or what have you, is lacking and not a priority to most County Extension staff people. It's a "fallacy" most of us have, I think!

Using the newstories sent from your office was easily done and was done.

Clay County Agent and Office Chairman:

Did not like the farm oriented programs and the farmers were not interested. Most use of the machine was on Home & Yard and the material was better. People would watch a program on pruning or landscaping but the farmer asked a question he wanted an answer not a program. Farm type programs were poor, which didn't help.

Beadle Home Economist:

It was a very good resource especially in the areas of great interest at a particular time of the year. For example--food preservation was high.

Beadle County Agent and Office Chairman:

You must be enthusiastic about having a new or different teaching tool. You must be constantly reminding people that it is available for their use. Younger people adapted better to using the machine and used them more frequently. They did'nt get more information from the programs because the older people usually came to observe a specific program that they had a question about.

Observations: 1) programs must be timely and answer the question.

2) programs must be made for the type of unit used. (slides on video, video shots on slides, "how-to-do" using lecture only, etc.)
3) must be easily available and have assistance nearby.

Hyde County Agent and Office Chairman:

Now that equipment is open for meeting use, demand for equipment and programs is good.

Davison Home Economist:

Most times it seemed easier to just give them the information rather than check and see if you had something and then set it up for them. Depending upon who it is, your talking to them gives you more credibility.

Faulk County Agent:

Would like to have the machine in the office so the clubs could use it when needed.

Yankton Home Economist:

I think it is a good idea. The programs were too limited and our location for the machine was poor.
Other than that I think it had a lot of possibility as a teaching aid.

Yankton County Agent and Office Chairman:

I think the concept is very good. I wish we could have had a better place to house the equipment. People must feel at ease when they come in to make use of the teaching aid.
I think it is a very good teaching aid and should be continued.

Gregory Home Economist:

Only working two days a week, I feel my answers may not be very accurate.

Gregory County Agent:

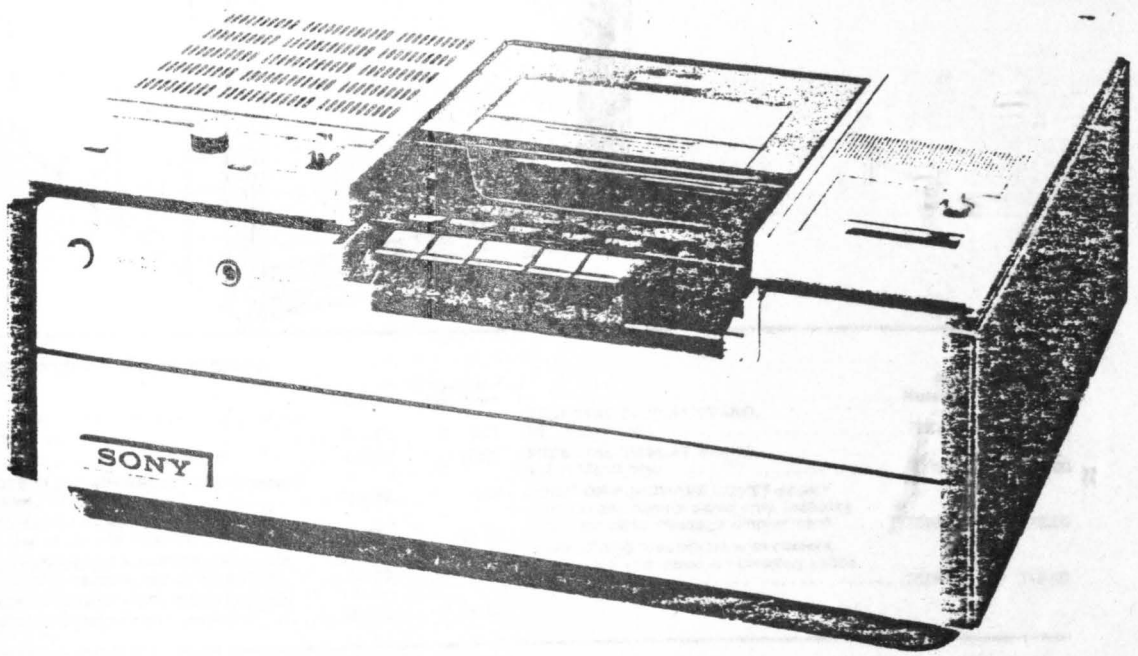
Thanks for the opportunity to take part in the study.

APPENDIX H

General:	
Betamax Video System	Rotary two-head helical scan system.
Video Signal	EIA Standard, NTSC color
Storage temperature	−20°C to +65°C (−4°F to +149°F)
Operating temperature	5°C to 40°C (41°F to 104°F)
VHF Output Signal	Channel 3 or 4 (depending upon the operating channel of RF unit)
Power Requirement	120 V ac
Power consumption	75 W
Weight	18.5 kg (40.7 lb)
Dimensions	450mm x 205mm x 400mm (17¾" x 8⅛" x 15¾") (w/h/d)
Video:	
Output	1.0 V (p-p) 75 ohms unbalanced, sync neg.
Horizontal Resolution	Monochrome: more than 280 lines Color: more than 240 lines
Signal-to-noise Ratio	Better than 40dB
Audio:	
Line Output	−5dB, 10 k ohms, unbalanced

Frequency Response	50 Hz to 10 kHz ± 4.5dB
Signal-to-noise Ratio	Better than 40dB
Audio Distortion	Less than 3% (at 333 Hz)
Tape Transport:	
Tape Speed	4.0 cm/sec ± 0.2%
Playback time	60 min. (with Sony K-60 videocassette)
Maximum Recording Time	60 minutes (with Sony K-60 Videocassette)
Fast Forward Time	Within 3½ minutes (K-60 Videocassette)
Rewind Time	Within 3½ minutes (K-60 Videocassette)
Wow and Flutter	Less than 0.3% RMS
Special Features:	Pause Mode, Headphone Input, Memory Counter
Accessories Supplied:	RF Units: RFU-203FW (3 ch) or RFU-204FW (4 ch) External Antenna Connector EAC-20W (75 ohm to 300 ohm matching transformer) Antenna Selector ANS-20 75-ohm coaxial cable (0.5m, 1.5m) Dust Cover

SLP-100
Betamax Player

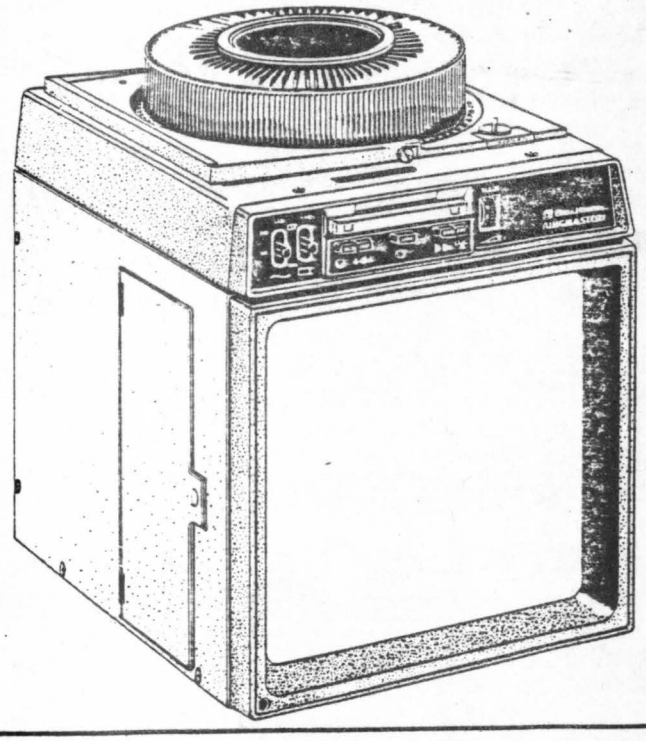


RingMaster™ Sound/Slide Projectors

Bell & Howell

Here is one of today's most flexible audio-visual tools. Bell & Howell's RingMaster is a multi-purpose sound/slide projector. Businessmen, salesmen, educators and other users find its many capabilities effectively answer a broad range of communication needs. Both models offer a multitude of outstanding features—

- **Rear Screen and Front-Throw Projection Capabilities**
- **Automatic Brightness Adjustment** when you change between front-throw and rear-screen projection.
- **Either 35mm or 126 Format Slides** Accepted in 2" x 2" Mounts
- **9.5" x 9.5" Rear Screen** (24 x 24cm)
- **Built-in Cassette Player**
- **Uses Standard Tape Cassettes**
- **Unique Frame Filler Control** for single-focus rear-screen enlargements
- **Primary Operating Controls Grouped In One Panel Over Rear Screen**
- **Convenient Pushbutton Controls**
- **Cool, Quiet Operation**
- **Bright f/3.5 75mm Lens With Heat Filter Condenser**
- **19-Volt, 80-Watt DDM Lamp With Integral Dichroic Reflector**
- **3" x 5" (7.6 x 12.7cm) Oval Ceramic Speaker**
- **Standard ¼" Headphone Jack**
- **Instant Slide Access Control**
- **Durable, Easy-To-Service Modular Construction**
- **80-Slide Rotary Slide Tray Provided**
- **Built-in Spare Tray Storage**
- **Vinyl Protective Cover**
- **Easy Portability**—Weighs only 24 lbs. (9.4kg) approximately.
- **Convenient Carrying Handle**



RingMaster™ Model 797 and Model 796

Model 796 is a front-throw/rear-screen sound/slide projector with built-in cassette tape player.
Model 797 includes a cassette player/recorder with all the above features, plus—

- **Built-in Cassette Player/Recorder** lets you create your own pre-recorded, pulse-controlled sound/slide programs.
- **Dynamic Remote Microphone**
- **Remote Control and Slide Advance Lead** to add 1000Hz pulse to recording tape or to control slide advance from a distance.
- **Automatic Shut-Off** of tape unit in Record or Play mode.
- **Record/Erase Interlock** to prevent accidental erasure of program.

Suggested List Price (Model 797) $439.50
Suggested List Price (Model 796) $389.50

RingMaster™ Accessories

	Part Number	Suggested List Price
STANDARD ROTARY TRAY, holds 80 35mm or 126 slides	708602	$ 5.75
DDM LAMP—GE 19-Volt, 80-Watt	708085	16.00
REMOTE SLIDE ADVANCE LEAD (standard on Model 797)	708062	6.25
LIGHTWEIGHT HEADPHONES for study carrel use or private listening	45554	10.95
DUAL HEADPHONE ADAPTER allows use of two sets of headphones on single unit	40720	4.35
TRANSPORTATION VINYL CASE protects projector, accessories and programs	708413	65.00
PEDESTAL DISPLAY STAND, 36" (91cm) high	708445	$ 43.00
PEDESTAL DISPLAY STAND, 42" (107cm) high	708620	46.00
POINT-OF-PURCHASE COVER covers carousel and control panel only. Includes space for sales message display card	708622	25.00
COPY STAND is complete with camera, lighting unit and stand for creating slides in 126 size	708665	119.00

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